District of Columbia Low Impact Development Grant Program

Introduction

District of Columbia Department of Health/Environmental Health Administration/Watershed Protection Division (WPD) will be funding an implementing grantee (not yet chosen) to design and build low impact development (LID) storm water management installations in the District. These installations will demonstrate innovative but simple methods to treat storm water to reduce quantity and improve the quality of water going into our rivers. Today's workshop is the first step in soliciting potential partners and sites for this project. We will be accepting applications from groups that would like LID installations on their property. Subsequently, representatives from WPD, and the implementing grantee, will visit potential properties to determine the feasibility of using LID to treat storm water.

When reviewing potential sites, WPD and its implementing grantee will take into consideration the amount of storm water potentially treated and detained at each site, site visibility, potential longevity of the project, ability of project to control erosion, and the demonstrable environmental benefit provided by the project, among others. We will **not** consider projects at one or two family residences.

Recipients of an LID installation must agree to maintain it for a specified amount of time, which will depend on the type of LID installed.

Why LID?

Quantity Control

The various sectors of the city are served by either a separate storm and sanitary sewer (Separate) or a combined sewer system (CSO). The separate system collects stormwater and sanitary sewage (human waste) in two separate systems (sets of underground pipes). The CSO collects sanitary and stormwater in the same pipes. In both cases, reducing quantity of stormwater entering the CSO or separate system and/or slowing the rate at which it enters these systems is of great benefit. In the case of the CSO, if the system becomes overloaded with rain, Blue Plains wastewater treatment plant cannot treat the total volume of flow. As a result of this lack of capacity some raw sewage mixed with storm water is dumped into the Anacostia River and Rock Creek. In the case of the separate system, when the District has heavy precipitation events, powerful and very destructive flushes of stormwater enter our smaller streams/tributaries and cause severe stream bank erosion. Installation of LID slows down the rate at which stormwater enters the CSO and separate systems by capturing it and detaining it for a short period before allowing it to enter into the system. Ultimately this means that Blue Plains can receive and treat a greater percentage of stormwater and sewage generated by the District and less is dumped into DC waterways untreated. It also helps minimize stream bank erosion because flows are attenuated.

Quality Control

Stormwater from precipitation events is laden with pollutants from the street, yards and rooftops. This includes, automotive oils, brake fluid, coolant, fertilizers, pesticides, heavy metals, bacteria from animal waste, suspended solids (soil), and trash to name just a few. This pollution enters the streams directly in the separate system and through the CSO during heavy precipitation events with obvious negative effects.

What is Low Impact Development (LID)?

LID employs design techniques that help retain, filter, treat, and reduce stormwater runoff, the waterflow associated with rain events, on site before it reaches local waterways. Typically, these design techniques direct stormwater to specially engineered green areas, such as "rain gardens"/bio-retention cells, green roofs, vegetated swales, tree boxes, etc. These green areas have specific soil types which are highly porous to allow maximum percolation and also support vegetation. The flora and fauna of the bioretention cell breakdown/treat/adsorb pollution in the stormwater (quality) and slow down and even retain the volume of stormwater before it enters the storm sewer and/or sanitary sewer system (quantity). Unlike traditional below-ground stormwater control measures, LID has tremendous aesthetic value, increases property values, it recharges groundwater, creates shade, and helps moderate urban temperatures indoors and out, etc all for 30-60% less than traditional techniques.

Funding Source/Clean Water Act

DC funding for this project comes from a grant under section 319 of the Federal Clean Water Act. This section addresses nonpoint source pollution and in-ground implementation of projects that reduce nonpoint source pollution from entering rivers. Within the District, WPD has responsibility for implementing this section of the Clean Water Act. LID is a very cost effective way for us to meet these obligations.

Sample Projects

Our 319 Grant allows WPD to fund storm water control projects. Generally, we fund projects that will capture and treat a significant amount of storm water, that can serve to educate the public about LID and storm water control or provide environmental education opportunities for students, as well as projects that have high visibility.

Projects funded under our 319 Grant include to date:

- Two green roofs in downtown DC.
- Rain garden at a police station in southeast DC .
- Installation of rain barrels at more than 100 homes.
- Schoolyard habitats at Ketcham and Lowell Elementary Schools.
- A project that is just beginning that will install conservation sites at eight schools—one in each ward—and train teachers and students in taking care of the sites. Teachers also will receive training in teaching conservation education so that they can use the conservation sites as outdoor classrooms in future years.

MS4—Our Other Directive

Additionally, our permit for our municipal separate storm sewer system requires us to manage storm water in the District. Watershed Protection Division works to reduce the amount of storm water running

off from our streets into our rivers. We also work to improve the quality of water that does reach our rivers. LID sites help us achieve both of these goals very cost effectively.

Permit Process

Any land-disturbing activity in the District requires a permit. The organization that is selected to manage the demonstration program (implementing grantee) will be responsible for obtaining all necessary permits.

Inspection and Enforcement

The organization that is selected to manage the demonstration program will be responsible for scheduling and passing all required inspections during the building process. WPD inspectors will conduct periodic inspections of any land disturbance activity in order to ensure compliance with the agreed upon Erosion and Sediment Control Plan.

Responsibility of Recipient for LID Installation

The landowner must of course agree to the project. Either the land owner or the group responsible for property upkeep will need to agree to be responsible for and maintain the LID installation site after it is completed. The District's responsibility for sites will end once the site is installed.

Although WPD is funding the project, you the recipient, will need to contribute some funds, labor, or materials to construction and completion of this project. In addition, you will have to agree to allow people to view the LID installation once it is completed. We want to increase the number of LID sites within the District, and as more people learn about them, more people will consider installing them.

Selection Criteria - *"All LID is not created equal."*

The specific type of LID as well as its location/placement strongly influences how effective it is at effecting the quality and quantity of stormwater. Various criteria, such as location and LID type will be used to weight the value of the different proposals against one another for funding. Other criteria will also be used. We list some of the basic and most important criteria below:

1. Ability to control quality.
    a. Draining an area with heavy automobile traffic or stationary motor vehicles. (ex. parking lot)
    b. Draining an area with heavy use by wildlife or pets (e.g. golf course).
    c. Draining an area with known regular pesticide or fertilizer usage (e.g. manicured lawn).
2. Ability to control quality.
    a. Draining a large impervious area. (Large parking lot, rooftop). The bigger the better, but remember that the cost of LID also increases with its size.
3. Proximity to sewer or stormwater inlets. (The closer the LID is to an inlet, the cheaper it is to attach the LID overflow device to the system).
4. Public relations value (the more people that can be educated by this retrofit, the better).
5. Proximity to sensitive areas, such as a stream or steep slope.

Timeline

We anticipate that funding for these LID projects will be available this winter (2003-2004). Sites that have been approved for funding will be notified soon thereafter. We expect that construction to begin in

spring or summer of 2004. Construction can take approximately three months to a year depending on the LID installation type and size.

Submit applications to: DOH, Watershed Protection Division
Attn: Alexi Boado (LID Proposals)
51 N Street, NE, 5th Floor
Washington DC, 20002
Questions? Call: 202-535-1798
E-mail submissions or questions: alexi.boado@dc.gov